

# Public Health Assessment (PHA)

## McLouth Steel

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# Topics to be discussed

- **What is a public health assessment (PHA)?**
- **What is the public health assessment process?**
- **Who conducts public health assessments?**
- **How can a community help in a public health assessment?**
- **How is the public health assessment conducted?**

# What is a public health assessment (PHA)?

- Evaluation of data/information on the release of hazardous substances into the environment in order to:
  - Assess any past, current, or future impact on public health;
  - Develop health advisories or other recommendations;
  - Identify studies or actions needed to evaluate and mitigate or prevent human health effects

**(42 Code of Federal Regulations, Part 90, published in 55 Federal Register 5136, February 13, 1990)**

# What is the public health assessment process?

## Triggers

- Petition/National Priorities List/Other Agency Request

## Input

- Data-Environmental/Exposure/Health Effects/Community Concern

## Scientific Evaluation

- Exposure Evaluation/Health Effects Evaluation

## Products

- PHA Report/Letter Health/Health Consultation/Health Advisory

## Outcomes

- Follow-up Health Actions/Technical Assistance to Other Agencies

# Key factors required in PHA

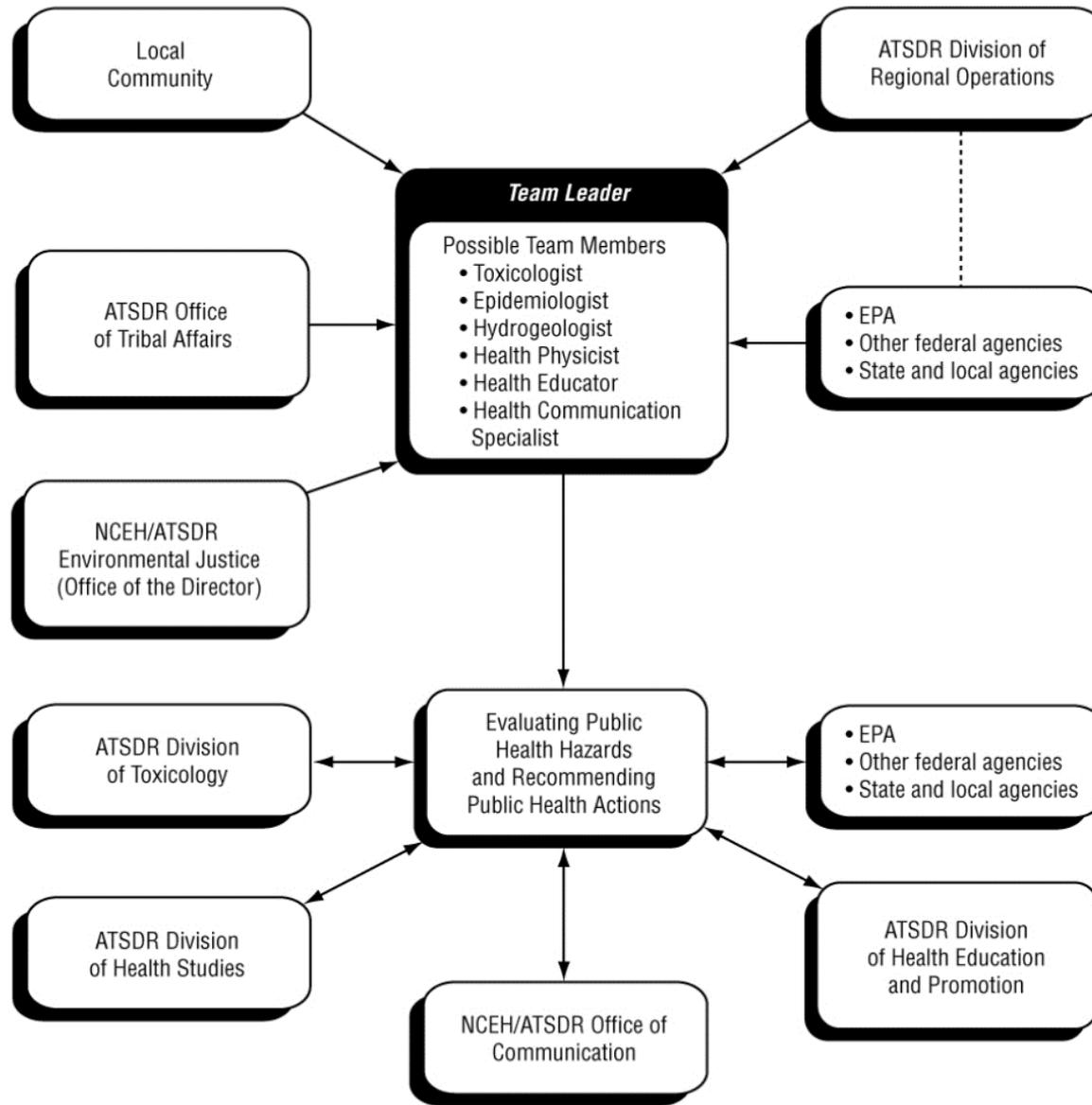
- Nature and extent of contamination
- Demographics (population size and susceptibility)
- Pathways of human exposure (past, current, and future)
- Health effects and disease-related data

# What triggers a public health assessment?

- *A site is on, or is proposed to be placed on, the EPA National Priorities List (NPL).*
- *ATSDR receives a “petition” to evaluate a site or release.*
- *ATSDR receives a request from another agency.*

# Who conducts public health assessments?

- *ATSDR Staff*
- *Government Partners, like MDHHS, that receive funding through ATSDR's cooperative agreement program*



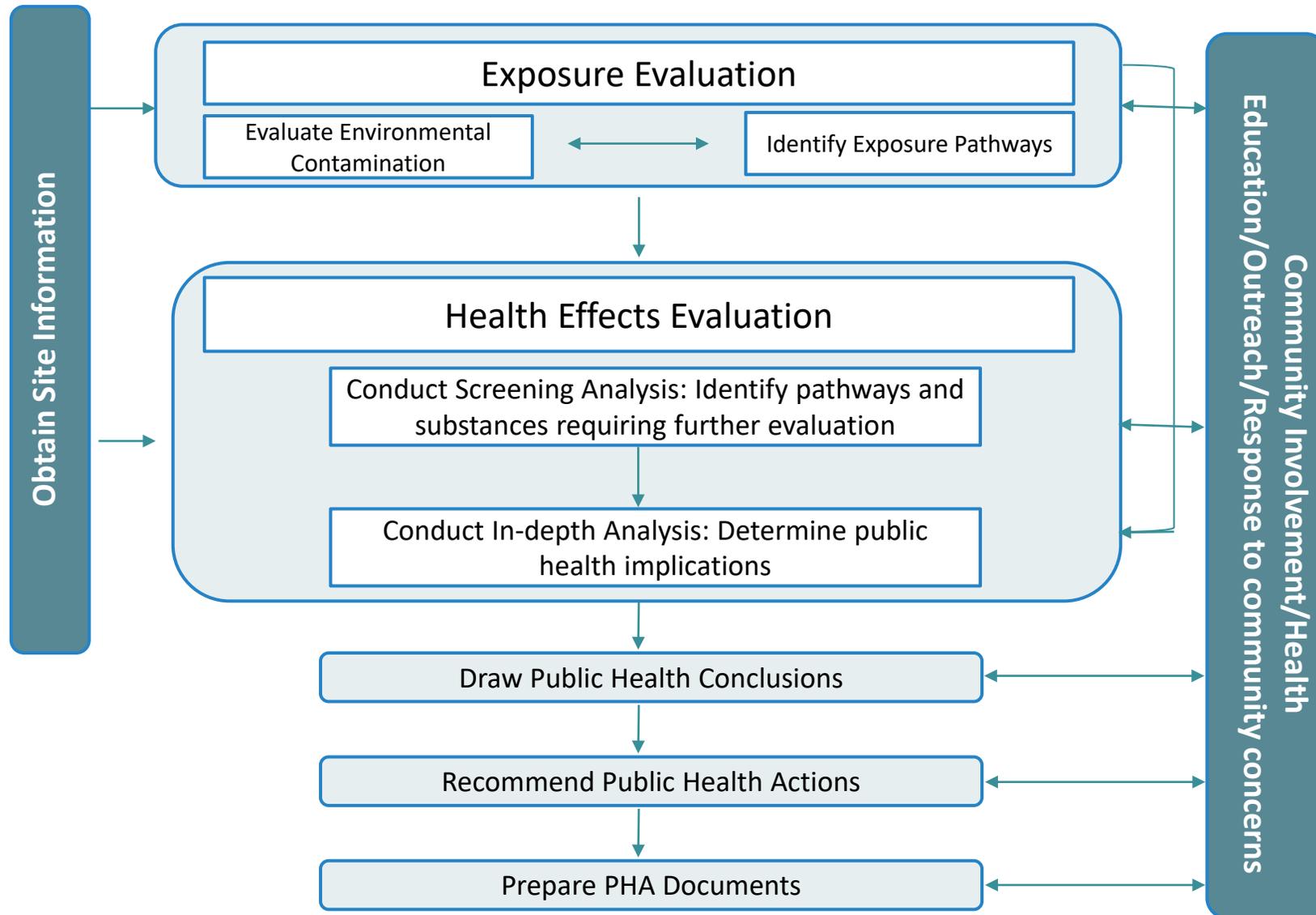
External partners that may be involved in supporting PHA

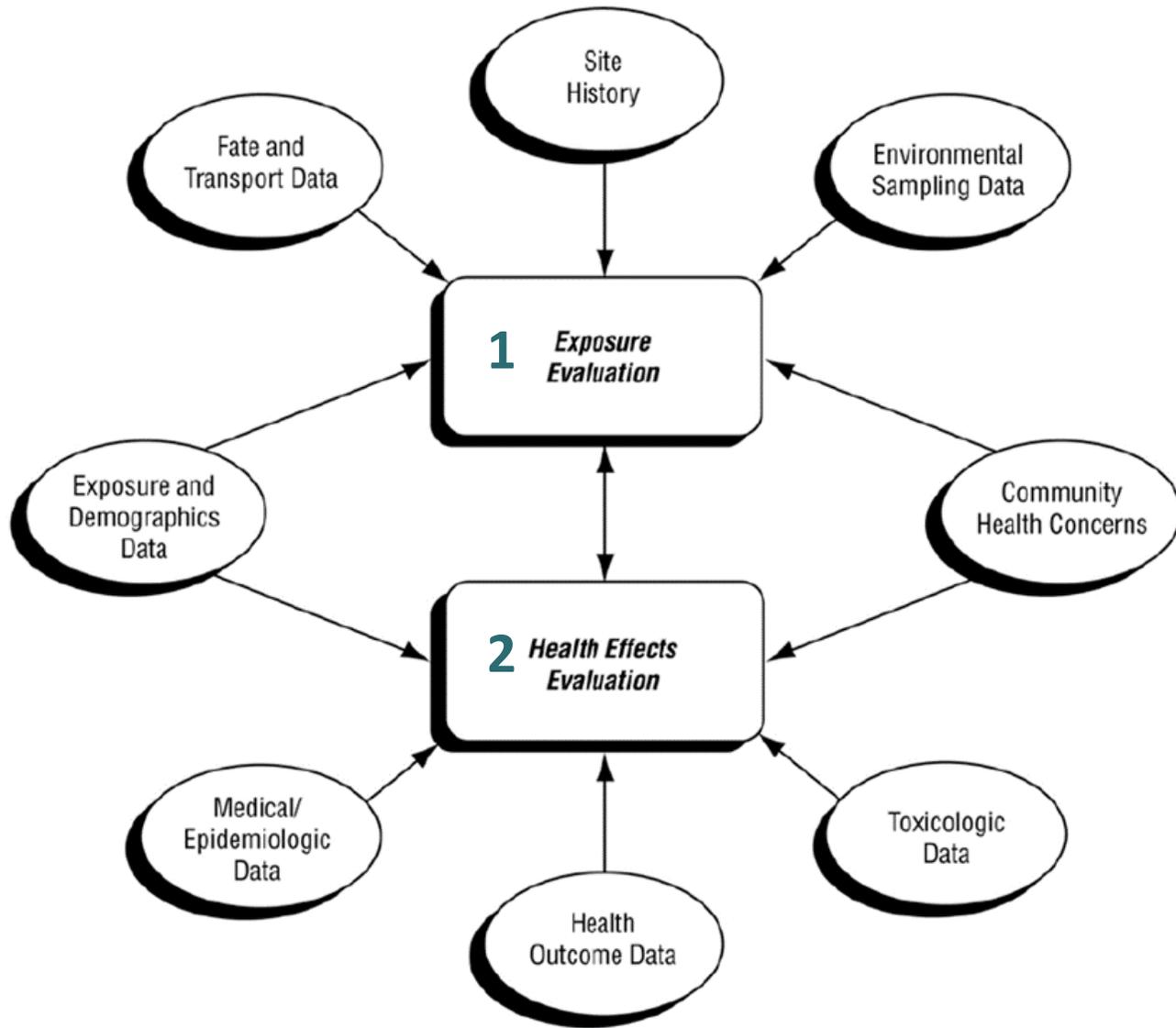
- MDHHS is the **Team Leader** for the McLouth Steel Public Health Assessment
- MDHHS works with ATSDR through the ATSDR's Technical Project Officer (TPO); Associate Director of Science (ADS); Regional Office; and Subject Matter Experts (SMEs)

# How can a community help in a public health assessment?

- Communities often play an important role in the public health assessment process. Members may include:
  - People who live and work at or around the site.
  - Residents, site or facility personnel, members of local action groups, local officials, tribal members, health professionals, and local media.
- They may provide site-specific information valuable to the public health assessment.
  - Helpful in defining various exposures such as:
    - Odors, fishing locations, trespassing a fenced site, etc.

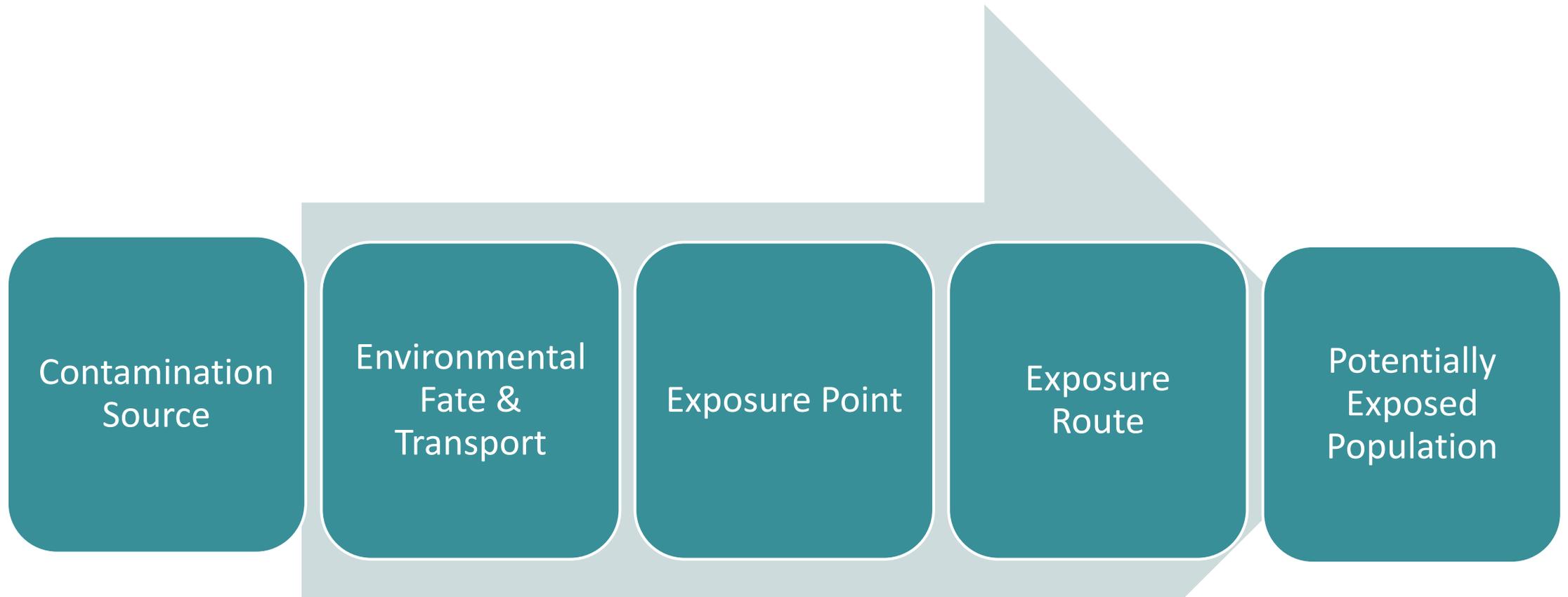
# How Is The PHA Conducted?





# TWO PRIMARY TECHNICAL COMPONENTS OF PHA PROCESS

# Five Elements of an Exposure Pathway



# Exposure Pathway Categories

- **Completed Pathway:** All five elements of the pathway are present.
  - The presence of a completed pathway does not imply that
    - An exposure would be substantive OR
    - An adverse health effect would occur.
- **Potential pathway:** One element (or more) of the pathway cannot be identified, but it is possible that the element might be present or might have been present.
- **Eliminated pathway:** At least one element of the pathway is not present and either will never be present or is extremely unlikely to ever be present.

# Exposure Pathways (McLouth Steel)

Exposure Medium	Chemical	Exposure Route	Source	Exposure Point	Exposed Population	Time Frame	Exposure <sup>1</sup>
Soil	VOCs/ SVOCs/ PCBs/ Metals/ Dioxins	Direct contact/ Incidental ingestion	Surface Impoundments/ Drums and Tanks**	On-Site	Workers	Past	Complete
					Demolition Workers	Present	Eliminated
					Transient Population	Past	Complete
Ground Water	VOCs/ Metals/ High pH	Ingestion	Surface Impoundments/ Drums and Tanks**	Drinking Water	Residents (adults and children)	Past/ Present/ Future	Eliminated
Air	Asbestos	Inhalation	Waste Demolition Building dust	Inhaled Air	Workers/ Residents (adults and children)	Past/ Present/Future	Complete*

<sup>1</sup>= NOTE: THE PRESENCE OF A COMPLETE EXPOSURE PATHWAY IN THIS TABLE DOES NOT IMPLY THAT AN EXPOSURE WOULD BE SUBSTANTIVE OR THAT AN ADVERSE HEALTH EFFECT WOULD OCCUR.

\* = Once the demolition phase is complete as part of the agreement with EGLE, the exposure pathway will change to Eliminated.

\*\* = Surface Impoundments/Drums and Tanks were present on site in the past.

# Health Effects Evaluation

## Conduct screening analyses

- Compare media concentrations at points of exposure to health-based “screening” values
  - Based on protective default exposure assumptions.
- Estimate exposure doses based on site-specific exposure conditions that you will then compare with health-based guidelines.

## If there is an exceedance based on the screening values:

- Make recommendations and action plans to reduce exposure
- Educate public on possible impacts to health
- Conduct further assessment to see if there have been health impacts



# Public Health Conclusions – Five Possible Categories

- No Public Health Hazard
- No Apparent Public Health Hazard
- Indeterminate Public Health Hazard
- Public Health Hazard
- Urgent Public Health Hazard

# Possible Public Health Actions

- Actions to reduce exposures
  - If harmful exposures are identified, removal/clean-up actions may be recommended.
- Exposure investigations
  - Identify data gaps
    - Recommend further sampling for better understanding
- Health education
  - May identify the need for education within a community

# Thank you!

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# Questions?